

Gonzaga University, Chemistry, D. A. Cleary

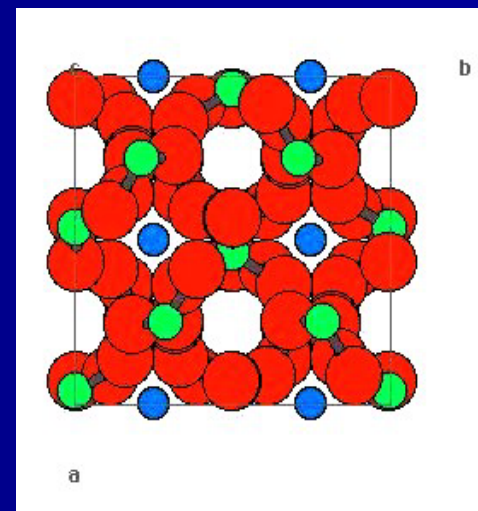
RUI: Metal Phosphorus Chalcogenides: Synthesis and Nonlinear Optical Properties

Synthesis and crystal structure of ErPS_4 , DyPS_4 , GdPS_4 , and LuPS_4

- New monoclinic phase discovered for rare earth thiophosphates
- Large voids, potential ionic conductors

Synthesis of amorphous $\text{M}_2\text{P}_2\text{O}_6$

- $\text{M} = \text{Sn}, \text{Co}, \text{Fe}, \text{Mn}$
- Low temperature method
- Nonlinear optical and thin film applications



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*RUI: Metal Phosphorus Chalcogenides: Synthesis and
Nonlinear Optical Properties*

Undergraduates and high school teachers participate

- Two undergraduates working during summer 2002
- Three undergraduates completed senior research projects 2001-2002
- Two undergraduates presented results at regional scientific meeting, November 2001.
- Undergraduate coauthor on ErPS₄ paper
- Two high school chemistry teachers working during summer 2002
- Local newspaper, *The Spokesman Review*, ran feature article on one of the teacher's involvement
- Other teacher has paper accepted at *J. Chem. Educ.* (based on work completed in lab during previous two summers)